

REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 1-12 are pending in the application. Claims 1, 2, 5, 8 and 11 have been amended. No claims have been added. No claims have been canceled.

The Examiner rejected claims 1-12 under 35 U.S.C. § 103(a), as being unpatentable over Deshpande et al. (hereinafter, Deshpande), and further in view of Blumberg and Iwata et al. (hereinafter, Iwata), Applicant respectfully disagrees.

Claim 1 as amended is as follows:

1. A method of displaying a thumbnail image of a data file stored in a storage unit on a display unit, the method comprising:
 - (a) storing in the storage unit a first compressed code relating to an image for displaying the thumbnail image of the data file, the first compressed code being generated by dividing the image into a plurality of tiles and performing discrete wavelet transform and hierarchical encoding on pixel values of the image tile by tile, wherein a plurality of thumbnail images are capable of being generated from the first compressed code by estimating different portions of the first compressed code, where each of the plurality of thumbnails is associated with a different data file format;
 - (b) setting a resolution of the thumbnail image to be displayed in accordance with a format type of the data file, thumbnail image being one of the plurality of thumbnails;
 - (c) extracting a second compressed code according to the resolution from the first compressed code stored in the storage unit to select the thumbnail image from the plurality of thumbnails, the second compressed code being different for different data file formats; and
 - (d) displaying the thumbnail image based on the second compressed code.

As set forth above, the present invention as claimed includes displaying a thumbnail image of a data file by setting a resolution of the thumbnail image in accordance with a format type of the data file, extracting compressed code that is related to an image associated with the thumbnail image, according to the resolution from the first compressed code stored in the storage unit, and displaying the thumbnail image based on the extracted compressed code. More specifically, there is a different number of thumbnail images for the different format types.

More specifically, in one embodiment, in a client, the resolution of a thumbnail image to be displayed on a display unit is determined for each data file format type, and a table of thumbnail image resolutions each correlated with a corresponding data file format type is created based on the determined thumbnail image resolutions. When a thumbnail display operation is started, a compressed code is extracted based on a thumbnail display start signal and the information set in the table. Accordingly, a different thumbnail image resolution may be generated for each different data file format type.

According to one embodiment of the present invention, the resolution of a thumbnail image to be displayed on a display unit is set (determined) for each data file format type, and the thumbnail image is displayed by extracting a compressed code corresponding to the set resolution of the thumbnail image. As a result, it is possible to change the thumbnail that is generated in accordance with the data file format type. In other words, it is possible to have a different thumbnail for each data file format type. This feature is neither disclosed nor suggested in any of the cited references.

Deshpande discloses a web server in Figure 1 that hosts a web page comprising thumbnail images in an electronic image format (JPEG2000). A client computer sends a request to a web server using URL information from an index file, to stream the lowest resolution version of the JPEG2000 image. The downloaded lowest resolution version of the JPEG2000 image is decoded and displayed in the JPEG2000 client browser window.

Blumberg discloses that a server computer stores documents for access by multiple client computers. The server computer contains a web server for serving files and documents to client computers in response to requests. Client computers typically contain web browsers for displaying pages of documents, and typically use links in documents to request from server computer.

Iwata discloses that layout data is detected from input document data, and the elements of the document data are identified and display specification data is detected from a storage device. A maximum display resolution stored in the display specification data and font information are read out. A font size is calculated using an optimum font size list corresponding to display resolution based on the maximum display resolution and the font information. The display is generated based on the result of the calculation.

There is no disclosure in the references of the resolution of a thumbnail image to be displayed on a display unit being for each data file format type, and the thumbnail image is displayed by extracting a portion of the compressed code corresponding to the set resolution of the thumbnail image as represented by the compressed code, such that the number of thumbnails can be changed in accordance with the data file format type. That is, these references do not disclose setting a resolution of the thumbnail image in accordance with a format type of the data file, extracting compressed code from a stored compressed code corresponding to that format type according to the resolution, and displaying the thumbnail image based on the extracted compressed code. In view of this, Applicant respectfully submits that the present invention as claimed is not obvious in view of Deshpande, and further in view of Blumberg and Iwata.

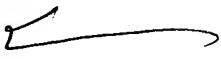
Accordingly, Applicants respectfully submit that the rejections to the claims have been overcome by the amendments and the remarks and withdrawal of these rejections is respectfully requested. Applicants submit that Claims 1-12 as amended are in condition for allowance and such action is earnestly solicited.

If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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